

304 .500 X.350

Work Order ID 158739

158739

Page 1

Thursday, March 30, 2017 2:18:56 PM

Item ID: D3591-1 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: Stop ***NS2***
Item Name: Bushing
Start Date: 3/31/2017 Start Qty: 30.00 ***30*** Cust Item ID:
Required Date: 4/5/2017 Req'd Qty: 30.00 ***30*** Customer:
Reference: SCHEDULED

Approvals: Process Plan: **DAS 21 9-89** Date: **MAR 30 2017** Tooling: Date: Run Start ***NR1***
QC: **9-89** Date: SPC (Y/N): Date: Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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Draw Nbr	Revision Nbr
D3591	Rev B

100	CONVENTIONAL LATHE	0.19				30	0		DAS 32 9-89
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100

Hardinge Memo 1.18
Hardinge CNC Lathe Small 1-Turn as per dwg D35912-Deburr

110	QC2- Inspect parts off machine FAI/FAIB	0.00				30	0		DAS 32 9-89
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110

QC Memo 0.30
Quality Control

120	QC8- Inspect parts - second check	0.00				30	0		DAS 32 9-89
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120

QC Memo 0.60
Quality Control

P.T.O.

DAS 14 9-89

17/04/20

DQA:

Date:

2017-08-25



QA Closed:

Date:

APR 20 2017

WORK ORDER NON-CONFORMANCE / UPDATE

Work Order update only

Work Order: <u>158739</u>		DISPOSITION		AGAINST DEPARTMENT/PROCESS			
Part No. <u>D3591-1</u>		Rework ☒		Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐
NCR No. <u>17-6390</u>		Scrap ☐		Machining ☒	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐
		Use-as-is ☐		Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐
		Suspected Unapproved ☐		Large Fab ☐	Composite ☐	Supplier ☐	
Date: <u>17-04-07</u>		Step #: <u>100</u>		QTY Effective: <u>30</u>		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition				DAS 9 17-04-07 9-89 17-04-07 Completed By DAS 45 17-4-20 9-89 Lead hand./ Supervisor Approval Verification DAS 14 17/04/20 9-89 QC / QA Coordinator Approval DAS 9 17-04-20 9-89	
Inside diameter varies from .422"-.425" but should be .430" +.006/-.001 P.C. material stock material is use and no detail to machine ID to drawing.		Rework ID to drawing.					
Root Cause		FAULT CATEGORY					
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐		
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	☒ Outside Dimensions		
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐		
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐		
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐		
Material ☒	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐		
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐		
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐		
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐		
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐		
Past Expiry Date ☐	Manufacturing Process ☐						
Misidentified ☐	Past Due ☐	OTHER :					

Work Order ID 158739

158739

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Thursday, March 30, 2017 2:18:56 PM

Item ID: D3591-1 Accept ***N900040100*** Setup Start ***NS1***
 Revision ID: Stop ***NS2***
 Item Name: Bushing
 Start Date: 3/31/2017 Start Qty: 30.00 ***30*** Cust Item ID:
 Required Date: 4/5/2017 Req'd Qty: 30.00 ***30*** Customer:
 Reference: SCHEDULED

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130	Identify as per dwg & Stock Location: FP-001	0.00							
130									
Packaging	Memo	0.30							
Packaging	LOCATION : FP001								
140	QC21- Final Inspection - Work Order Release	0.00							
140									
QC	Memo	3.00							
Quality Control									

x30 d **17/4/21**

17/4/24

DAS
21
9-89 APR 24 2017

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date : _____	Step #: _____	QTY Effective : _____		MRB (QS1042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabelled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : _____					

Picklist Print

Thursday, March 30, 2017 2:19:01 PM

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Work Order ID: 158739

158739

Parent Item: D3591-1

D3591-1

Parent Item Name: Bushing

Start Date: 3/31/2017

Required Date: 4/5/2017

Start Qty: 30.00

Required Qty: 30.00

Comments: IPP A 07.02.01 new issue EC
IPP Rev:B 08-09-10 revB as per dwg DD verified by:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
M304TR0.500W.035		Purchased	No			100	f	58.1200	0.35	11.05263			
									**			17.04-03	DAS 32 989
M304TR0 500W 035													
304 RD Tube .500 x .035W													

Location

Loc Qty

Loc Code

GA

58.12

m137086

58.12

m137190

10.885

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date : _____	Step #: _____	QTY Effective : _____		MRB (QSI042) Approval	
Description Work Order Deviation			Disposition		
			Completed By		
			Lead hand / Supervisor Approval Verification		
			QC / QA Coordinator Approval		
Root Cause		FAULT CATEGORY			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐
OTHER : _____					

DART AEROSPACE LTD		Work Order:	158739
Description: Bushing		Part Number:	D3591-1
Inspection Dwg: D3591 Rev: B			Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST

X

First Article

Prototype

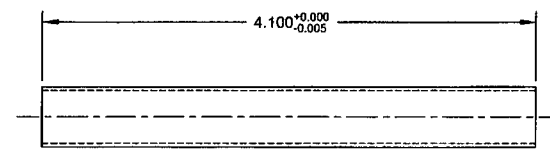
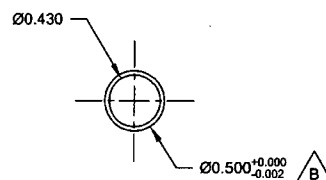
[illegible]

Measured by:	32	Audited by:		Prototype Approval:	N/A
Date:	17-04-03	Date:	17/04/20	Date:	N/A

Rev	Date	Change	Revised by	Approved
A	08.09.04	New Issue	KJ/DD	
B	09.05.07	Tolerance updated per Dwg Rev B	KJ/EC	

SHOP COPY
 RETURN TO
 ENGINEERING
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 SUBJECT TO AMENDMENT
 WITHOUT NOTICE

WORK ORDER
 NO. 158759 HCS
 17-03-30



D3591-1 BUSHING

RELEASED
 08-09-03/11

- NOTES:**
- 1) MATERIAL: AISI 304/316 SS, Ø0.500, 0.035 WALL SEAMLESS ROUND TUBING
 REF. DART SPEC M304TR0.500W.035
 OR: AISI 303/304/316 SS, ROUND BAR
 REF DART SPEC M303R/M304R
 - 2) FINISH: NONE
 - 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
 - 4) UNITS: INCHES UNLESS OTHERWISE NOTED
 - 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
 - 6) IDENTIFICATION: NONE
 - 7) WEIGHT: N/A

B	DRAWING UPDATED TO "B" SIZE FORMAT AND CURRENT STANDARDS. ZN C6 TOLERANCE WAS -0.005. MATERIAL UPDATED TO ALLOW PART TO BE MACHINED TO MAINTAIN TOLERANCE. (SEE NCR 08-074 FOR FURTHER DETAILS.)		AJS	08.08.25
A	NEW ISSUE		PH	07.01.16
REV.	DESCRIPTION		BY	DATE
DESIGN	PH	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA		
DRAWN	AJS			
CHECKED			DRAWING NO.	REV. B
MFG. APPR.			D3591	SHEET 1 OF 1
APPROVED			TITLE	SCALE
DE APPR.		BUSHING	NTS	
DATE	08.08.25	COPYRIGHT © 2007 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.		

